

REMARKS

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This application has been reviewed in light of the Office Action dated April 8, 2003. Claims 11, 12, and 14-22 are pending in this application, with Claims 11, 12, 14, 21, and 22 having been allowed. Claims 11, 15, and 17 are in independent form. Claims 15 and 17, which are the non-allowed independent claims, have been amended to define more clearly what Applicant regards as the invention. Favorable reconsideration is requested.

The Office Action includes a rejection of Claims 15-20 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,072,602 (Sun et al.), in view of U.S. Patent No. 4,444,318 (Alexander).

Applicant submits that amended independent Claims 15 and 17, together with their dependent claims, are patentably distinct from the proposed combination of the cited patents for at least the following reasons.

Claim 15 requires an image sensor unit mounted in an image reader, including a light source, a reading element, and a housing. The light source is adapted to illuminate an original. The reading element is adapted to read an image of the original. The housing is adapted to mount the light source and the reading element, and has a hole mounting a spacer therein. The spacer maintains a distance between an original-holding plate of the image reader and the image sensor unit. The housing is movable relative to the original-holding plate in a direction perpendicular to a depth direction of the hole.

A notable feature of Claim 15 is that the housing is movable relative to the original-holding plate in a direction perpendicular to a depth direction of the hole in the housing. Support for this feature can be found at least in reference to Figures 1 and 5. These figures, in combination, show that the line sensor unit 2, having spacers 51a and 51b

mounted in holes 2c and 2d, moves from Xs to Xe, which is a direction perpendicular to the depth direction of the holes 2c and 2d. The Examiner is also respectfully referred to page 10, lines 13-19, and page 13, line 8, to page 14, line 21 of the specification for additional support. The advantage of mounting a spacer in a hole in the line sensor unit is that such an arrangement is simple in structure and still maintains the benefits of smooth and accurate movement of the image sensor relative to the transparent plate. (It is to be understood, of course, that the scope of Claim 15 is not limited to the details of this embodiment, which is referred to only for purposes of illustration.)

In rejecting Claim 15, the Office Action relies on sliding elements 103 of Sun et al. to allegedly disclose a spacer according to Claim 15. However, the Office Action states, and Applicant agrees, that Sun et al. does not disclose how the spacer is mounted. See page 2 of the Office Action. Therefore, Applicant submits that Sun et al. does not teach or suggest a housing having a hole with a spacer mounted therein, and further, that the housing is movable relative to the original-holding plate in a direction perpendicular to a depth direction of the hole, as required by Claim 15.

To supplement the lacking disclosure in Sun et al., the Office Action refers to Alexander to allegedly teach that a spacer can be mounted into a chassis or housing by means of a hole in the chassis or housing. Even if Alexander is deemed to teach such a feature, Applicant submits that nothing in Alexander would teach or suggest movement between (1) a housing having a hole with a spacer, and (2) an original-holding plate in a direction perpendicular to a depth direction of the hole, as required by Claim 15.

Since both Sun et al. and Alexander are understood not to teach or suggest a housing that is movable relative to an original-holding plate in a direction perpendicular to a depth direction of a hole in the housing, as required by Claim 15, Applicant submits that

Claim 15 is patentable over these two patents, taken separately or in any proper combination, for at least this reason.

Independent Claim 17 includes a feature very similar to that just discussed in connection with Claim 15. In particular, Claim 17 requires that the image sensor unit be driven by the motor, for scanning the original, in a direction perpendicular to a depth direction of the recess while maintaining a predetermined distance from the transparent plate by using the slider. Therefore, Applicant submits that Claim 17 is patentable over Sun et al. and Alexander, taken separately or in any proper combination, for at least the same reason discussed above in connection with Claim 15.

Further, Applicant submits that the combination of Sun et al. and Alexander is improper because if the invention of Sun et al. was modified by the teachings of Alexander, the invention of Sun et al. would be rendered unsatisfactory for its intended purpose. See M.P.E.P. § 2143.01. In particular, the invention of Alexander, as shown in Figure 3, uses a spacer body portion 10 to separate circuit boards 30 and 32 by a fixed distance. Both circuit boards 30 and 32 have holes, in which tapered pins 14, located on the ends of the spacer body portion 10, are inserted. Consequently, circuit boards 30 and 32 are fixed in position. See col. 2, lines 21-28, and col. 2, lines 40-45 of Alexander. If such a spacer was used in the invention of Sun et al., i.e., a spacer that has pins on each end that are inserted into holes in both the sheet table 107 and the CIS carriage 102 of Sun et al., the CIS carriage 102 would not be able to move. See col. 2, lines 63-67 of Sun et al. for a description of the relationship between the CIS carriage 102, the sliding elements 103, and the sheet table 107. This would prevent the CIS carriage 102 from performing scanning, and consequently, would render Sun et al. unsatisfactory for its intended purpose. If Sun et al. would be rendered unsatisfactory for its intended purpose by being modified to

incorporate the spacer of Alexander, then there is no suggestion or motivation to make the proposed modification. See M.P.E.P. § 2143.01. Accordingly, Applicant submits that the proposed combination of Sun et al. and Alexander is improper.

For at least the reasons discussed above, Applicant respectfully requests that the Section 103(a) rejections of Claims 15 and 17 be removed.

The other rejected claims in this application depend from either Claim 15 or Claim 17 discussed above and, therefore, are submitted to be patentable for at least the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, individual reconsideration of the patentability of each claim on its own merits is respectfully requested.

This Amendment After Final Action is believed to place this application in condition for allowance and, therefore, its entry is believed proper under 37 C.F.R. § 1.116. Accordingly, entry of this Amendment After Final Action, as an earnest effort to advance prosecution and reduce the number of issues, is respectfully requested. Should the Examiner believe that issues remain outstanding, it is respectfully requested that the Examiner contact Applicant's undersigned attorney in an effort to resolve such issues.

In view of the foregoing amendments and remarks, Applicant respectfully requests favorable reconsideration and the allowance of the present application.

Applicant's undersigned attorney may be reached in our New York Office by telephone at (212) 218-2100. All correspondence should continue to be directed to our address listed below.

Respectfully submitted,

  
Attorney for Applicant

Registration No. 24,613

FITZPATRICK, CELLA, HARPER & SCINTO  
30 Rockefeller Plaza  
New York, New York 10112-3801  
Facsimile: (212) 218-2200

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